

REMARKS

This Amendment responds to the Office Action mailed February 4, 2003. Claims 1, 2 and 5-15 remain pending in the Application and new claims 16-19 were added by this Amendment. Claims 1, 2 and 5-15 stand rejected. Applicants respectfully traverse these rejections for the reasons stated below and respectfully request reconsideration of all pending claims. The following remarks are respectfully submitted.

Objection to the Drawings

The drawings were rejected for allegedly failing to adequately depict the pump buckets recited in the claims. Applicants respectfully traverse these objections and submit that the drawings, together with the detailed description, adequately disclose the invention. However, in the interest of advancing prosecution of the Application, Applicants have submitted herewith, proposed corrected drawings, along with respective formal drawings, to more fully depict the pump buckets as requested by the Examiner. Accordingly, Applicants respectfully request that the objections to the drawings be withdrawn.

Claims Rejected Under 35 U.S.C. § 112

Claims 1-2 and 5-15 were rejected under 35 U.S.C. § 112, first and second paragraphs, with regard to the recitation of "pump buckets" in the claims. In this regard, the Examiner indicated that the amendments to the claims to recite

"pump buckets", and the associated supporting remarks filed in the Amendment mailed December 5, 2002 were unexpected. However, Applicants point out that the Application clearly states that "the rotatable element 6 . . . is constructed as an impeller, with several pump buckets 34" (see Application at page 8, lines 7-9). This feature was also recited in original claim 3.

Applicants further note that the Examiner indicated that the anticipated argument "asserting that one skilled in the art would know what structure constitutes the recited pump buckets will likely be unconvincing" (Office Action mailed February 4, 2003 at page 13). In responding to the Office Action, Applicants urge the Examiner to fully consider the statements made herein, noting that it has been repeatedly held that a patent application need not disclose that which is well known in the art.

It has been consistently held that the first paragraph of 35 U.S.C. § 112 required nothing more than objective enablement. . . . In satisfying the enablement requirement, an application need not teach, and preferably omits, that which is well-known in the art. *Stahelin v. Secher*, 24 USPQ 2d 1513, 1516 (B.P.A.I. 1992).

Furthermore,

an inventor need not, however, explain every detail since he is speaking to those skilled in the art. What is conventional knowledge will be read into the disclosure. Accordingly, an applicant's duty to tell all that is necessary to make or use varies greatly depending upon the art to which the invention pertains. . . . It is well settled that the disclosure of an application embraces not only what is expressly set forth in the words or drawings, but what would be understood by persons skilled in the

art. As was said in *Webster Loom Co. v. Higgins et al.*, . . . the applicant "may begin at the point where his invention begins, and described what he has made that is new and what it replaces of the old. That which is common and well known is as if it were written out in the patent and delineated in the drawings. *In re Howarth*, 210 USPQ 689, 692 (C.C.P.A. 1981) (*citations omitted*).

Adequate description under the first paragraph of 35 U.S.C. §112 does not require literal support for the claimed invention. . . . Rather, it is sufficient if the originally-filed disclosure would have conveyed to one having ordinary skill in the art that an appellant had possession of the concept of what is claimed. *Ex parte Parks*, 30 USPQ 2d 1234, 1236-37 (B.P.A.I. 1993).

In view of the foregoing, Applicants point out that the Specification clearly indicates that the design of pump buckets is known in the art (see Application at page 8, lines 9). Applicants further note that the term "bucket" is a term of art referring to elements of a hydraulic device, particularly in the field of turbomachines. Specifically, the term "bucket" refers to elements on a rotor disk or stator structure which have a deep curved profile. Evidence that such terminology is known in the art may be found, for example, with reference to issued U.S. Patent No's. 4,454,935; 4,573,870; and 5,360,318. For at least the reasons stated above, Applicants submit that one of ordinary skilled in the art of hydraulic device design would have understood from the disclosure what the term "pump buckets" encompassed. Accordingly, Applicants respectfully request that the rejections of claims 1, 2 and 5-15 under 35 U.S.C. §112 be withdrawn.

Claims Rejected Under 35 U.S.C. §102

Claims 1, 2, 4-11, 13 and 14 were rejected under 35 U.S.C. §102(b) as being anticipated by either Great Britain Patent GB 2 047 104, U.S. Patent No. 6,227,698 to Müntener, U.S. Patent No. 4,918,665 to Herfeld, or U.S. Patent No. 4,883,363 to Pillon et al. Claim 1 is the only independent claim of this rejected group. Applicants respectfully traverse these rejections of claim 1 for the reasons set forth in the Amendment mailed December 5, 2002. Specifically, none of the cited references teach or suggest a homogenizer with a rotatable element "constructed as an impeller with a plurality of pump buckets," as set forth in claim 1. In this regard, the pins in rows 31, 32 and 33 of the device in GB 2 047 104 are described as having cylindrical cross sections (see GB 2 047 104 at page 3, lines 49-51). The non-cylindrical impact elements (15) (see Figure 4) also do not have a "bucket" configuration. Müntener discloses shearing tools (8) described as having "pin-like, knife-like or . . . paddle-like" configurations (see Müntener at column 3, lines 36-41). Herfeld discloses elements (11a) defined as "blades." Pillon et al. disclose a device as having vertical teeth (5, 14) for shearing in-fed product disposed on a disk (12), not a plurality of pump buckets, as recited in claim 1.

As was discussed in the Amendment mailed December 5, 2002, Applicants have distinguished the recited pump bucket configuration from conventional rotor-stator configurations disclosed in the cited references. This configuration overcomes drawbacks of prior art homogenizers in which a shearing effect and a transporting effect of prior homogenizers were directly interlinked due

to the fact that they were accomplished by the same rotor-stator arrangement. To address this problem of the prior art, the rotatable element of the present invention incorporates pump buckets to provide "high pumping performance while the rotor essentially generates the shearing effect" (see Application at page 4, lines 1-4).

For at least the reasons stated above, Applicants submit that claim 1 is not taught by the cited references. Accordingly, Applicants respectfully request that the rejection of claim 1 over GB 2 047 104, Müntener, Herfeld and Pillon et al. be withdrawn.

Claims 2, 5-11, 13 and 14 each depend from independent claim 1 and therefore are in condition for allowance for at least the reasons stated above for claim 1. Accordingly, Applicants respectfully request that the rejections of claims 2, 5-11, 13 and 14 over GB 2 047 104, Müntener, Herfeld and Pillon et al. be withdrawn.

Claims 1, 2, 5, 6, 9-11 and 14 were further rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 1,624,037 to Butler. Claim 1 is the only independent claim of this rejected group. Applicants respectfully traverse the rejection of Claim 1 because Butler does not teach each element of claim 1. Specifically, Butler does not teach a rotatable element "constructed as an impeller with a plurality of pump buckets" as set forth in claim 1. Rather, Figures 2-4 of Butler clearly depict straight blades, not pump buckets. For at least these reasons, Applicants respectfully request that the rejection of claim 1 over Butler be withdrawn.

Claims 2, 5, 6, 9-11 and 14 each depend from independent claim 1 and therefore are in condition for allowance for at least the reasons stated above for claim 1. Accordingly, Applicants respectfully request that the rejections of claims 2, 5, 6, 9-11 and 14 over Butler be withdrawn.

Claims 1, 2 and 5 were further rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,460,444 to Howorka. Claim 1 is the only independent claim of this rejected group. Applicants respectfully traverse the rejection of claim 1 over Howorka, because Howorka does not teach each element of claim 1. Specifically, Howorka does not teach "a rotatable element coupled to the drive device which is mounted for rotation in the first housing and driven for rotation independently of the rotor," as set forth in claim 1. Rather, Howorka merely indicates that rotors 1, 2 are moved in opposite directions (see Howorka at column 5, lines 19-21). Howorka does not teach that the rotors may be rotated independently of one another. Accordingly, the rotors of Howorka cannot be driven in the same direction or opposite directions (as set forth in claim 2), or operated such that one of the rotors is still while the other is driven (see Application at page 5, lines 10-15). With regard to the Examiner's statements regarding functional language of the claims (see Office Action at page 8), Applicant's note that, while the claims may include functional language, these functional features set forth limitations which are not taught in the cited references and which must be considered. See, e.g., *In re Land*, 151 USPQ 621, 635-36 (C.C.P.A. 1966). For at

least these reasons, Applicant's submit that claim 1 is in condition for allowance and respectfully request that the rejection of claim 1 over Howorka be withdrawn.

Claims 2 and 5 each depend from independent claim 1 and therefore are in condition for allowance for at least the reasons stated above for claim 1. Accordingly, Applicant's respectfully request that the rejections 2 and 5 over Howorka be withdrawn.

Claims Rejected Under 35 U.S.C. §103

Claims 1-5, 11, 13 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over either GB 2 047 104, Müntener, Herfeld, or Pillon et al. in view of Applicant's Specification at page 8, second paragraph, which states "pump buckets 34 are arranged along a circle which is concentric to the blades 26, 28 and are designed in a known fashion in such a way that the liquid substance is transported with a relatively high pumping power through the homogenizer." The Examiner alleges that it would have been obvious to substitute the pump buckets disclosed in Applicant's application for impeller elements of the cited references to transport the processed substance with a high pumping power. However, such a modification of these references involves improper hindsight analysis using Applicant's own disclosure. Moreover, Applicant's point out that the disclosure merely states that the use of pump buckets on a rotating element is known in the art, but does not state that the particular combination of elements recited in the claims is known in the art. The mere fact that elements of an invention are known

in the art does not make an invention obvious. Rather, the law requires that there must be some teaching or suggestion in the art to combine references in the manner suggested by the Examiner. In this regard, none of the cited references teach or suggest the invention set forth in the claims. The Examiner has not cited any reference, other than Applicant's own disclosure, which teach or suggest making the proposed combination. For at least this reason, Applicants traverse the rejections of claim 1 under 35 U.S.C. §103(a) over GB 2 047 104, Müntener, Herfeld, and Pillon et al., in combination with Applicant's disclosure. Accordingly, Applicants respectfully request that the rejections of claim 1 under 35 U.S.C. §103(a) be withdrawn.

Claims 2, 5-11, 13 and 14 each depend from independent claim 1 and therefore are in condition for allowance for at least the reasons stated above for claim 1. Accordingly, Applicants respectfully request that the rejections of claims 2, 5-11, 13 and 14 under 35 U.S.C. §103(a) be withdrawn.

Claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Pillon et al. or Butler in view of U.S. Patent No. 5,253,937 to Scheimann. Applicants respectfully traverse this rejection of claim 12, because claim 12 is not taught or suggested by the cited references. Specifically, Applicants note that claim 12 depends from independent claim 1. Accordingly, neither Pillon et al. nor Butler teaches or suggests a rotatable element "constructed as an impeller with a plurality of pump buckets," as discussed above with respect to claim 1. Scheimann et al. does not teach or suggest a modification of either Pillon et al. or Butler which

cures this deficiency. For at least this reason, Applicants respectfully request that the rejection of claim 12 be withdrawn.

Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Müntener in view of U.S. Patent No. 5,980,100 to Haegeman. Applicants respectfully traverse this rejection of claim 15 because Müntener does not teach all elements of claim 15, and the combination with Haegeman does not cure this deficiency. Specifically, Applicants note that claim 15 depends from independent claim 1. Müntener does not teach a rotatable element "constructed as an impeller with a plurality of pump buckets," as discussed above with respect to claim 1. Rather, column 3, lines 37-41 of Müntener, cited by the Examiner, discuss various shapes the "shearing tools" of Müntener's device may have, such as "pin-like, knife-like, or. . .paddle-like." Thus, Müntener does not teach or suggest a bucket shape. Moreover, Applicants note that the shapes discussed by Müntener relate to the shearing function of his device, and not to a pumping function. The combination of Müntener with Haegeman does not cure this deficiency. For at least these reasons, Applicants respectfully request that the rejection of claim 15 over Müntener in view of Haegeman be withdrawn.

New Claims

New claims 16-19 were added by this Amendment. Claim 16 is directed to a homogenizer for homogenizing free-flowing substances, similar to claim 1, and further recites that the homogenizer includes "a plurality of stator

blades disposed within the housing, at least some of the stator blades positioned between the rotor blades and the pump buckets." Claims 17-19 each depend from independent claim 16 and further recite limitations related to the location of the stator blades. Support for claims 16-19 can be found in the drawings as filed, and in the Specification at page 8, lines 17-23; page 10, line 23-page 11, line 8; and page 11, lines 14-19. Accordingly, Applicants submit that no new matter has been added by this Amendment. Applicants further submit that claims 16-19 recite features or combinations of features not taught or suggested by the cited references. Accordingly, Applicants respectfully request allowance of claims 16-19.

In view of the foregoing amendments to the claims and remarks given herein, Applicants respectfully believe this case is in condition for allowance and respectfully request allowance of the pending claims. If the Examiner believes any detailed language of the claims requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

Applicants are of the opinion that an additional fee of \$465.00 for a three-month extension is due as a result of this amendment. A check for \$465.00 is submitted herewith. If any additional charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

By: 
David W. Dorton, Reg. No. 51,625

2700 Carew Tower
441 Vine Street
Cincinnati, OH 45202
(513) 241-2324 (voice)
(513) 421-7269 (facsimile)